In the claims:

Please cancel claims 1-7 without prejudice. Please add new claims 8-22 as follows.

【Claims 1-7】 (Canceled)

【Claim 8】 (New)

A differentiation regulating agent, which regulates differentiation from stem cells into natural killer cells, containing one or more genes, as an effective ingredient, selected from a group consisting of homeobox protein MIX (AF15457), pre-pro-proteinase 3 (U97073), myeloblastosis (Myb) oncogene (M16499), keratin complex 1, acidic, gene 13 (NM_010662), PA-phosphatase related phosphoesterase (AK002966), gamma-parvin (BC011200), forkhead-related transcription factor 1C (AF330105), RIKEN cDNA 5730501N20 gene (AK017744), c-myc protein (X010223), ribosomal protein L10A (AK002613), Oct 2b gene (X53654), microlite (AK015601), dihydrolipoamide dihydrogenase (BC003368), tracle (U81030), lysozyme (BC002069), ferritin H chain (BC012314), brevican (X87096), matrix metalloproteinase 12 (BC019135), EIA-stimulated gene cellular inhibitor (AF084524), S100 calcium binding protein A9 (BC027635), MPS1 protein (L20315), transglutaminase 2 (BC016492), serum and glucocorticoid regulated protein kinase (AF139639), RIKEN cDNA 5830413L19 (BC027496), interferon-induced protein (BC003804), milk fat globul membrane protein EGF factor 8 (BC018577), cell-surface glycoprotein p91 (U83172), arginase 1 (BC050005), tumor necrosis factor receptor 1 (M59378), retinoid-induced serine carboxypeptidase (AF330052), FLJ11000 homologue (BC023802), interleukin-18 binding protein d precursor (AF110803), chloride channel 7 (AK009435), CD36 antigen (BC010262), zink finger protein homologue (BC030186), carbohydrate binding protein 35 (J03723), C-type calcium dependent carbohydrate (BC003218), lipoprotein lipase (NM_008509), v-maf

lacertus fibrosarcoma oncogene (BC038256), interleukin 7 receptor (NM_008372), chemokine (C-C) receptor 1 (BC011092), neurophilline (MGD|MGI:106206) (AK002673), SERPINA3G (XM_127137), GABA-A receptor subunit 6 (X51986), LAPTm5 (U51239), G-protein signal regulator (BC049968), decoy-stimulating factor GPI fixed mRNA (L41366), Y box protein 3 (AK019465), osteopontin precursor (J04806), amyloid beta (A4) precursor protein-binding family (AK021331), T cell receptor beta subunit analogue (U63547), immune related nucleotide 1 (BC005577), higher stage transcription factor 1 (NM_009480), olfactory receptor MOR267-7 (NM_146714), lymphocyte specific protein tyrosine kinase (M12056), osteoclast cancer inhibitor (AB013898), platelet active receptor homologue (BC024054), natural killer cell protein 2-A1 (AF016008), unidentified protein MGC36662 (BC023851), semaphorin 6A precursor homologue (AK004390), neurofilament homologue polypeptide (BC025872), cornin homologue actin binding protein 2A (BC026634), solute transmitting family 6 (BC015245), temporary purine receptor P2Y10 homologue (AK020001), T cell receptor gamma chain (X03802), poly A polymerase alpha (NM_011112), OPA-related protein OIP5 analogue (AK017825) and mytogen activated protein kinase 1 analogue (BC006708).

【Claim 9】 (New)

The differentiation-regulating agent as set forth in claim 8, wherein the differentiation-regulating agent is used for the treatment of cancer.

【Claim 10】 (New)

The differentiation regulating agent as set forth in claim 9, wherein the cancer is selected from a group consisting of breast cancer, melanoma and lung cancer.

【Claim 11】 (New)

A differentiation regulating agent, which regulates differentiation from stem cells into premature natural killer cells, containing one or more genes, as an effective ingredient, selected from a group consisting of homeobox protein MIX (AF15457), pre-pro-proteinase 3 (U97073), myeloblastosis (Myb) oncogene (M16499), keratin complex 1, acidic, gene 13 (NM_010662), PA-phosphatase related phosphoesterase (AK002966), gamma-parvin (BC011200), forkhead-related transcription factor 1C (AF330105), RIKEN cDNA 5730501N20 gene (AK017744), c-myc protein (X010223), ribosomal protein L10A (AK002613), Oct 2b gene (X53654), microlite (AK015601), dihydrolipoamide dihydrogenase (BC003368) and tracle (U81030).

【Claim 12】 (New)

The differentiation-regulating agent as set forth in claim 11, wherein the differentiation-regulating agent is used for the treatment of cancer.

【Claim 13】 (New)

The differentiation regulating agent as set forth in claim 12, wherein the cancer is selected from a group consisting of breast cancer, melanoma and lung cancer.

【Claim 14】 (New)

A differentiation regulating agent, which regulates differentiation from premature natural killer cells into mature natural killer cells containing one or more genes, as an effective ingredient, selected from a group consisting of lysozyme (BC002069), ferritin H chain (BC012314), brevican (X87096), matrix metalloproteinase 12 (BC019135), EIA-stimulated gene cellular inhibitor (AF084524), S100 calcium binding protein A9 (BC027635), MPS1 protein (L20315), transglutaminase 2 (BC016492), serum and glucocorticoid regulated protein kinase (AF139639), RIKEN cDNA 5830413L19 (BC027496), interferon-induced protein (BC003804), milk fat globul membrane protein EGF factor 8 (BC018577), cell-surface glycoprotein p91 (U83172), arginase 1 (BC050005), tumor necrosis factor receptor 1 (M59378), retinoid-induced serine carboxypeptidase (AF330052), FLJ11000 homologue (BC023802), interleukin-18 binding protein d precursor (AF110803), chloride channel 7 (AK009435), CD36 antigen (BC010262), zink finger protein homologue (BC030186), carbohydrate binding protein 35 (J03723), C-type calcium dependent carbohydrate (BC003218), lipoprotein lipase (NM_008509), v-maf lacertus fibrosarcoma oncogene (BC038256), interleukin 7 receptor (NM_008372), chemokine (C-C) receptor 1 (BC011092) and neurophilline (MGD|MGI:106206).

【Claim 15】 (New)

The differentiation-regulating agent as set forth in claim 14, wherein the differentiation-regulating agent is used for the treatment of cancer.

【Claim 16】 (New)

The differentiation regulating agent as set forth in claim 15, wherein the cancer is selected from a group consisting of breast cancer, melanoma and lung cancer.

【Claim 17】 (New)

A differentiation regulating agent, which regulates differentiation of mature natural killer cells, containing one or more genes, as an effective ingredient, selected from a group consisting of SERPINA3G (XM_127137), GABA-A receptor subunit 6 (X51986), LAPTm5 (U51239), G-protein signal regulator (BC049968), decoy-stimulating factor GPI fixed mRNA (L41366), Y box protein 3 (AK019465), osteopontin precursor (J04806), amyloid beta (A4) precursor protein-binding family (AK021331), T cell receptor beta subunit analogue (U63547), immune related nucleotide 1 (BC005577), higher stage transcription factor 1 (NM_009480), olfactory receptor MOR267-7 (NM_146714), lymphocyte specific protein tyrosine kinase (M12056), osteoclast cancer inhibitor (AB013898), platelet active receptor homologue (BC024054), natural killer cell protein 2-A1 (AF016008), unidentified protein MGC36662 (BC023851), semaphorin 6A precursor homologue (AK004390), neurofilament homologue polypeptide (BC025872), cornin homologue actin binding protein 2A (BC026634), solute transmitting family 6 (BC015245), temporary purine receptor P2Y10 homologue (AK020001), T cell receptor gamma chain (X03802), poly A polymerase alpha (NM_011112), OPA-related protein OIP5 analogue (AK017825) and mytogen activated protein kinase 1 analogue (BC006708).

【Claim 18】 (New)

The differentiation-regulating agent as set forth in claim 17, wherein the differentiation-regulating agent is used for the treatment of cancer.

【Claim 19】 (New)

The differentiation regulating agent as set forth in claim 18, wherein the cancer is selected from a group consisting of breast cancer, melanoma and lung cancer.

【Claim 20】 (New)

A screening method for a gene regulating the differentiation from stem cells into natural killer cells comprising the following steps:

1) Synthesizing cDNA after separating whole RNA from stem cells or cells from stage of cell differentiation;

2) Separating tag after digesting the cDNA of the step 1;

3) Connecting each tag separated in the step 2 and then analyzing nucleotide sequence thereof; and

4) Quantifying the expression of the gene, based on the analyzed nucleotide sequence above, by using SAGE (Serial Analysis of Gene expression) analyzing program.

【Claim 21】 (New)

A screening method for a gene regulating the differentiation from stem cells into natural killer cells as set forth in claim 20, which further comprises clustering SAGE data obtained from the step 4 by computer clustering program with expression pattern.

【Claim 22】 (New)

A screening method for a gene regulating the differentiation from stem cells into natural killer cells as set forth in claim 20, wherein the stem cells or cells from stage of cell differentiation are HSCs(haematopoietic stem cell), pNK cells(precursor natural killer cells) and mNK cells(mature natural killer cells).